

CLAIM AMENDMENTS

1. (Currently Amended) Method for connecting plates lying on top of one another, comprising the steps of:

deep-drawing together ~~with which~~ stacked plate sections ~~(19, 21, 22)~~ of these the plates ~~(15, 16, 17)~~ are deep-drawn together into a deep-drawing opening (9) of the a bottom die (8) by a die (1) and its the associated bottom die (8) with ~~a-actually~~ an unyielding base, ~~(11) and are afterwards~~

radially squeezed squeezing the stacked plate sections wide transverse to the deep-drawing direction, ~~due to the resistance of the base (11) (Clinching). Hereby such that~~ at least the bottom part of the first ~~(lowest)~~ plate section (19), seen ~~form~~ from the bottom die (8), and the ~~above second and~~ additional plate sections (21, 22) at least partially sub-seize their the associated plate, said first plate section being the lowest plate section, wherein at least partially, characterized by the fact,

that during the deep-drawing and squeezing procedure, ~~due to the shape of the work area (4, 5, 6) of the die (1), the displacement of the material is larger in a first cross direction, than~~ than in a second cross direction, ~~which is approximately 90° rotated from the first direction due to the shape of a work area of the die, with according there are~~ soft transitions of the displaced material from the first to the second cross direction,

~~That thereby~~ the wall parts of the ~~second and~~ additional plate sections ~~(21, 22)~~ in the area of the first cross direction, running in deep-drawing direction, are ~~accordingly~~ thinned ~~more,~~ up to tear separation, without the first plate section (19) being thinned ~~or~~ weakened, ~~accordingly, so~~

that in the first cross direction a lower thickness of the wall parts remains, with a strong sub-seizing of the plates ~~(15, 16, 17)~~ by the bottom parts of the plate sections ~~(19, 21, 22)~~, and ~~that with according~~ there is a soft transition in the second cross direction where a substantially larger thickness of the wall parts remains, with less sub-seizing of the plates ~~(15, 16, 17)~~ by the bottom parts of the plate sections ~~(19, 21, 22)~~.

2. (Currently Amended) Method according to claim 1, ~~characterized by the fact that~~ wherein the die (1) and the deep-drawing opening (9) exhibit a circular or an oval cross section and ~~that the work area (4, 5, 6) of the die (1) is designed wedge-shaped with a to a large extent~~ substantially rectangular front surface (4), ~~so such~~ that at the opposite sides of the die (1) strong thinnings, up to tear separation, of the wall parts of the ~~second and~~ additional plate

sections ~~(21, 22)~~ take place and that the radial displacement is held back by the wedge areas ~~(5)~~.

3. (Currently Amended) Method according to claim 1, ~~wherein or 2, characterized by the fact that~~ the volume of the deep-drawing opening (9) is constant in the deep-drawing direction ~~(press direction)~~ and transverse to the deep-drawing direction ~~(press direction)~~, ~~so such that~~ during the squeezing procedure the longitudinal extension ~~as well as~~ and the transverse extension of the deep-drawn plate sections ~~(19, 21, 22)~~ is limited unyieldingly and an edge area, running in deep-drawing direction, results.

4. (Currently Amended) Method according to claim 1 ~~or 2, characterized by the fact that~~ during the squeezing procedure the volume of the deep-drawing opening (9) can be increased in longitudinal extension and/or transverse extension.

5. (Currently Amended) Method according to claim 1 ~~one of the preceding claims, thereby characterized, wherein~~

~~that~~ during the squeezing procedure existing edges ~~(14)~~ of recesses ~~(13)~~, pointing towards the die, engage at the base ~~(11)~~ of the deep-drawing opening (9) in the bottom of the first lowest plate section ~~(19)~~ and obstruct its radial outward flow and

~~that~~ displaced material from the ~~second or above~~ additional plate sections ~~section~~ ~~(21, 22)~~ flows into the resulting radial clearances above the first plate section ~~(19)~~.

6. (Currently Amended) Method according to claim 5, ~~characterized by the fact that~~ wherein the obstruction of the radial outward flows takes place in the first cross direction.

7. (Currently Amended) Method according to claim 1 ~~one of the preceding claims, wherein~~ ~~characterized by the fact that~~ the first and a third plate ~~(15, 17)~~ consists of comprise metal and that the second, intermediate plate ~~(16)~~ consists of comprises plastic.

8. (Currently Amended) Method ~~for connecting plates (15, 16, 17) lying on top of one another by clinching, in particular for the implementation of the method according to claim 1, one of the preceding claims, with at~~ wherein the bottom die is (8) placed in a device for creating force, the bottom die exhibiting a deep-drawing opening (9) with an unyielding base ~~(11)~~, and with a the die (1), driven toward the bottom die (8) transverse to the ~~to be~~

connected plates ~~(15, 16, 17)~~ whereby such that at least the bottom part of the first ~~(lowest)~~ plate section ~~(19)~~, ~~seen from the bottom die (8)~~, and the ~~above~~ second and additional plate sections ~~(21, 22)~~ sub-seize their associated plate at least partially, ~~thus characterized~~

that the work area ~~(4, 5, 6)~~ of the die ~~(1)~~ and/or its work peg ~~(2)~~ are designed wedge-shaped, with a substantially ~~an essentially~~ rectangular front surface ~~(4)~~, running transverse to the deep-drawing direction, ~~whose narrow sides cross themselves with the lateral surface (6) of the work peg (2).~~

~~That~~ between the lateral surface ~~(6)~~ and the face of the front surface ~~(4)~~ two wedge-shaped work areas ~~(5)~~ are present, which oppose ~~are opposing~~ each other diagonally to the deep-drawing direction and are ~~mirror-symmetrically~~ mirror-symmetrical to each other, for a smaller radial material displacement-

~~That~~ the distance between the lateral surface ~~(6)~~ of the die ~~(1)~~ and the side walls ~~(10)~~ of the deep-drawing opening ~~(9)~~ prevent cutting the first ~~(lowest)~~ plate section ~~(19)~~ during the deep-drawing and the squeezing procedure both in deep-drawing direction and in cross direction.

9. (Currently Amended) Method according to claim 5, ~~characterized by the fact that~~ wherein the die ~~(1)~~ above the wedge shape and the deep-drawing opening ~~(9)~~ ~~exhibit~~ exhibits a circular or oval cross section.

10. (Currently Amended) Method according to claim 8 ~~or 9~~, ~~characterized by the fact that~~ wherein the deep-drawing opening ~~(9)~~ in the bottom die ~~(8)~~ is ~~designed as a blind opening, that its~~ wherein side walls of the bottom die (10) run in the deep-drawing direction and are unyielding, like the base ~~(11)~~ of the deep-drawing opening is unyielding.

11. (Currently Amended) Method according to claim 10, ~~characterized by the fact that in~~ the wherein a boundary area of the base ~~(11)~~ of the deep-drawing opening ~~(9)~~ has a circular crease ~~(12)~~ ~~is present~~, with a cross section that ~~is enlarging~~ enlarges in an upward direction.

12. (Currently Amended) Method according to claim 8 ~~or 9~~, ~~characterized by the fact that~~ wherein the volume ~~in~~ of the deep-drawing opening can be increased after the deep-drawing procedure and during the squeezing procedure lengthwise and/or in the cross direction.

13. (Currently Amended) Method according to claim 12, ~~characterized by the fact that~~ wherein the sidewalls of the deep-drawing opening are ~~designed radial flexible in the radial direction.~~

14. (Currently Amended) Device according to ~~one of the claims claim 8 to 13,~~ characterized ~~by the fact that~~ wherein the base, although actually unyielding, can be adjusted a certain stroke length when exceeding a certain pressing force of the die.

15. (Currently Amended) Device according to ~~one of the claims 8 to 14~~ claim 17, ~~characterized by the fact that in~~ wherein the base ~~(11)~~ of the deep-drawing opening ~~(9)~~ has recesses ~~(13)~~ are present, with edges ~~(14)~~ towards the base, which adapted to fit a in the bottom of a of the first plate section ~~(19)~~ after a the deep-drawing procedure and to obstruct a radial outward flow of the squeezed material of this the first plate section ~~(19)~~.

16. (Currently Amended) Device according to claim 15, ~~characterized by the fact that~~ wherein the recesses are ~~designed as~~ concentric and/or central symmetrical key grooves ~~(13),~~ ~~which are~~ arranged continuously and/or misaligned to each other.

17. (New) A device for connecting plates lying on top of one another comprising:
a die having an associated bottom die, said bottom die having an unyielding base,
said die having a circular or oval cross section,
said bottom die having a deep drawing opening, at least one of a work area and a work
peg are wedge shaped and having a substantially rectangular front surface,
said deep drawing opening has a constant volume in a deep drawing direction and in a
direction transverse to the deep drawing direction,
said bottom die located in a force creating device.

18. (New) The device of claim 17 wherein the volume of the deep-drawing opening can be increased in the longitudinal direction or in the transverse direction.

19. (New) The device of claim 17 wherein said deep drawing opening has an unyielding base.

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20. (New) The device of claim 17 wherein the work peg has a lateral surface and two wedge-shaped work areas are present between the lateral surface and the face of the front surface, said two wedge-shaped work areas are mirror image symmetrical.